عنوان مقاله:

Effects of Slip Boundaries on Mixed Convection of Al۲O۳-water Nanofluid in Microcavity

محل انتشار:

بیست و یکمین همایش سالانه بین المللی مهندسی مکانیک (سال: 1392)

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نویسندگان:

A. R Rahmati - *Assistant Professor, Department of Mechanical Engineering, University of Kashan*

T Azizi - *MSc. Student, Department of Mechanical Engineering, University of Kashan*

S. H Mousavi - *MSc. Student, Department of Mechanical Engineering, University of Kashan*

خلاصه مقاله:

Mixed convection of Al۲O۳-water nanofluid in a square microcavity is investigated numerically. Governing equations are discretized and solved using the Finite Volume Method and SIMPLER algorithm. The Knudsen number is selected between ۰.۰۰۱ and ۰.۱ to consider slip velocity and the jump temperature boundary conditions. Results showed that Nusselt number is a function of Richardson number, Knudsen number and volume fraction of nanoparticles and could .be enhanced up to ۱۰.۹۳% using nanoparticles in the base fluid

کلمات کلیدی:

nanofluid, slip flow, mixed convection, microcavity, Knudsen number